



# Technical Service Bulletin

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## 91 Parking assistance provides false warnings

91 22 75 2024323/9 February 7, 2022. Supersedes Technical Service Bulletin Group 91 number 21-04 dated May 18, 2021 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
All Audi	2005-2017	All	Parking Aid

## Condition

REVISION HISTORY		
Revision	Date	Purpose
9	-	Revised header (Added model years and models) Revised <i>Service</i> (Added environmental and vehicle conditions) Revised <i>Warranty</i> (Added PIDs)
8	05/20/2021	Revised header (Added model years and models) Revised <i>Additional Information</i> (Added reference)
7	01/25/2021	Revised header (Added model years and models)

The customer states one of the following:

- Parking aid sporadically warns of obstacles when none exist.
- Parking aid is inoperative or provides a constant warning.

## Technical Background

- Various parking aid sensor fitting issues.
- Environmental conditions.



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Please review the informational video before attempting the repair procedure: <https://audi-external.kzoplatform.com:443/swf/player/342> (Figure 1).



*Figure 1. False parking system warnings.*

Please review the informational video before attempting the repair procedure: <https://audi-external.kzoplatform.com:443/swf/player/343> (Figure 2).



*Figure 2. Parking system malfunctions.*

## Production Solution

Not applicable.

## Service

Various environmental conditions can cause false activations to be seen by the customer. In cases where the customer is reporting several false activations (parking aid warning is displayed however nothing is around) the below **environmental** and **vehicle** contributors should be checked.

### **Environmental Conditions**

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1. Plants growing to certain heights, and curbs can lead to incorrect warnings being issued in the vicinity of the vehicle.
2. Gravel Tracks, cobblestones, potholes, cattle grids, sharp bends in the road, and slopes can lead to incorrect warnings being issued.
3. Various types of weather/ambient conditions can lead to functional issues:
  - Water on the parking aid senders (widening of the radiation pattern).
  - Ice/snow on the parking aid senders or in transition to the bumper.
  - Vehicle exhaust gases and water vapor (bursts of heat caused by revving the engine) alter the physical property of the air needed to transport the ultrasound of the parking aid system.
  - Noise disturbance (pneumatic brakes of heavy goods vehicles, anti-rodent devices, or other active ultrasound sources in the vicinity, such as parking aid systems in other vehicles).
4. Immediate surroundings
  - Fluorescent tubes.
  - Induction loops at traffic lights and car park barriers.
  - Ramps/Driveways.

## Vehicle

1. Check installation of the license plate and carrier with regard to the following points:
  - If possible, do not use any advertising carriers.
  - The size of the license plate must be identical to that of the base carrier.
  - Ensure that the number plate and carrier are secured correctly at the side edges (edges bent upwards)
2. Add-on parts/modifications/retrofits which are not Audi Genuine Accessories could lead to an erroneous warning being issued.
  - Trailer hitch.
  - Lowered ride height.
  - Spoilers.
  - Bumpers.
  - Sound generators.
  - Anti-rodent devices.
3. Previous damage where a new coat of paint has been applied (refer to repair history).



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## Checks without disassembly

Misaligned parking aid sensors or various vehicle mountings can cause parking aid malfunctions. This TSB provides tips for diagnosing the parking aid systems.

1. Confirm that there is no obvious obstruction due to aftermarket components, physical vehicle damage, excessive dirt/snow, or stickers.
2. Check the vehicle fault memory and proceed according to GFF.
  - If GFF identifies a problem with a specific sensor, proceed with the test plan.
  - If GFF does not identify a specific sensor, check MVBs in the master module for the parking aid sensors. Based on the vehicle, these can be found in the guided functions or OBD of modules 09, 76, or A5.



**Tip:** Below is an example of module 76 MVB. When diagnosing the system you can check the response values for the sensors. Compare the sensor values to one another while moving a test object closer/further away, they should all respond similarly.

**MVBs for distance calculations** (255 = no obstruction). If an obstruction is identified but none exists, proceed to step 3.



**Tip:** Vehicles can be equipped with 4, 8, or 12 channel parking aid systems. Refer to Elsa for vehicle-specific information.

3. Check parking sensors (Figure 3) for obvious issues:

- Mechanical damage (stone chips, scratches).
- Dirt, ice, foreign bodies, and/or foil adhered to the sensor.
- Damage to the bumpers that may indicate an accident (or paint indicating a previous incident).



*Figure 3. Stone chips causing sensor failure.*



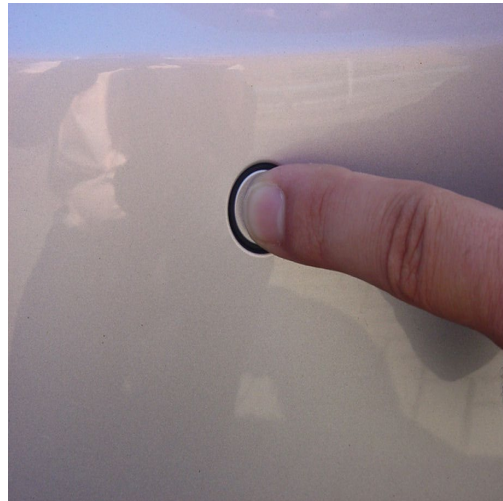
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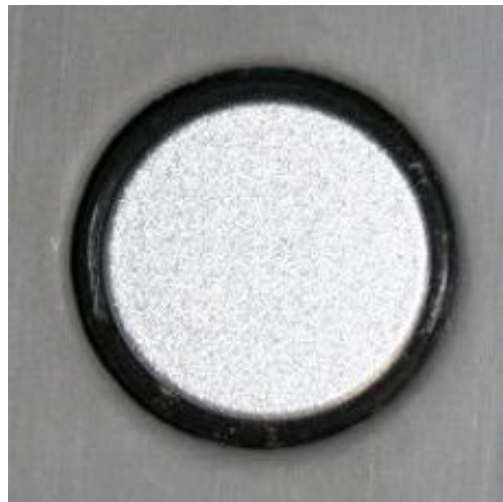
**Tip:** Exterior damage to the vehicle, including stone chips and scratches, is not covered by Audi Warranty. When painting sensors, the special painting instructions for parking sensors in the paint repair manual must be observed.

4. Pressure check for a tight fit and correct attachment of the parking sensors (Figure 4). If the sensor is not snug or feels loose, remove the bumper and reinstall the sensor.

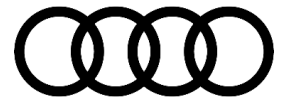


*Figure 4. A pressure check on a parking aid sensor.*

5. Check that the decoupling ring is correctly seated (Figures 5 - 7). If the ring is folded or bulging, remove the bumper and reinstall the sensor.

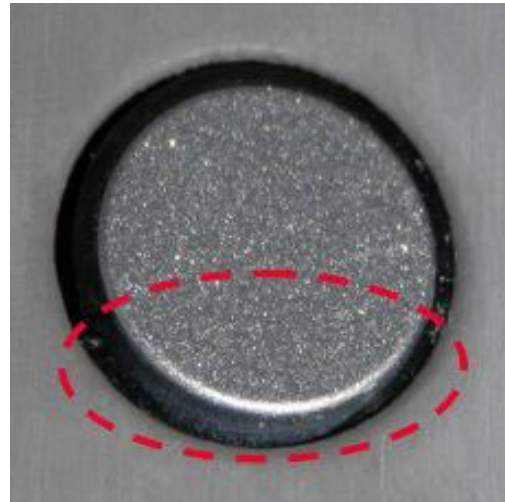


*Figure 5. A correctly seated decoupling ring.*

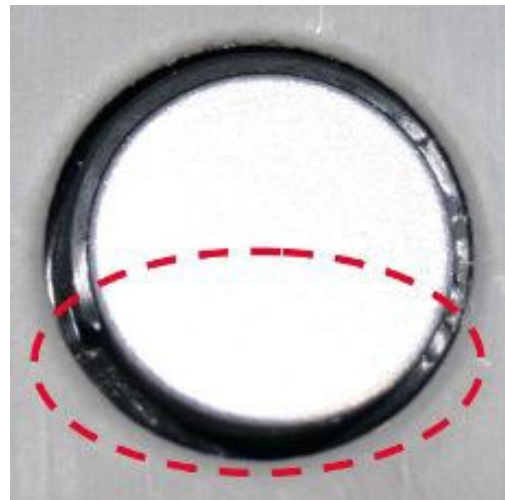


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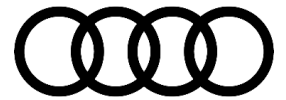
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**Figure 6.** An incorrectly seated decoupling ring (bulging).



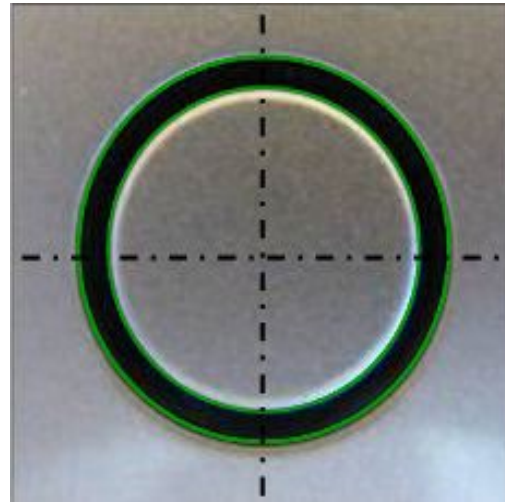
**Figure 7.** An incorrectly seated decoupling ring (folded).



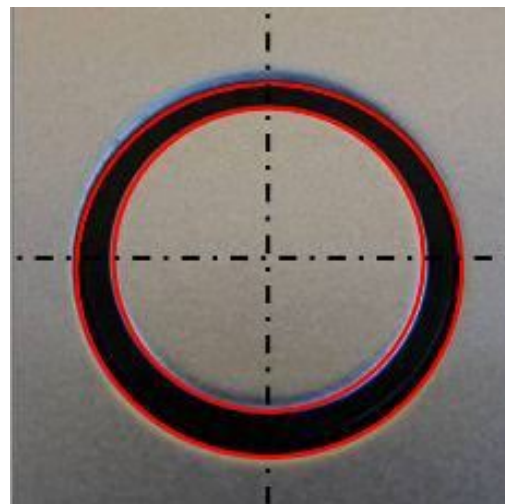
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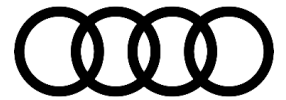
6. Verify that the sensor is centered inside of the mounting hole (Figures 8 - 9). If the sensor is mounted off-center, remove the bumper and reinstall the sensor.



*Figure 8. A correctly centered parking aid sensor.*



*Figure 9. An off-center parking aid sensor.*



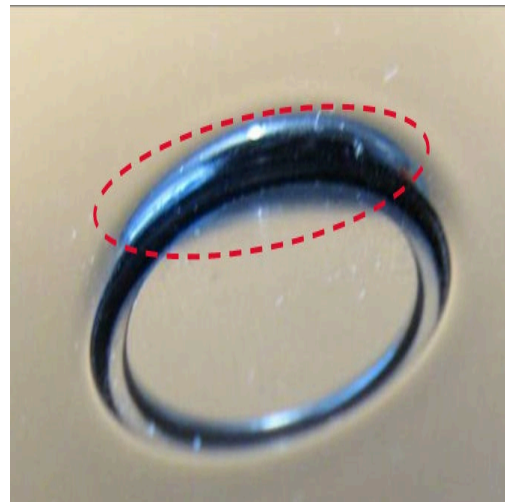
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7. Ensure the sensor sits flush with the bumper (Figures 10 - 11). If the sensor is recessed or bulging, remove the bumper and reinstall the sensor.



*Figure 10. A correctly installed parking aid sensor.*



*Figure 11. A recessed parking aid sensor.*

8. Remove the bumper and check the connectors on the sensors, the socket box of the bumper, on the control module for parking assistance, and on the parking assistance sound generator for:
  - Corrosion.
  - Water ingress or water marks.
  - Bent open pins.
  - Pushed back pins.





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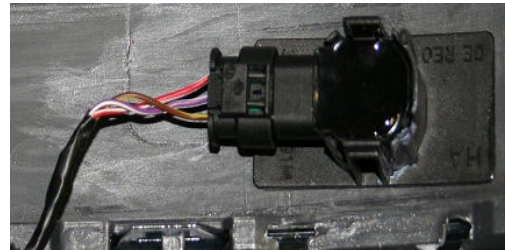
- The correct fit of plug seal.



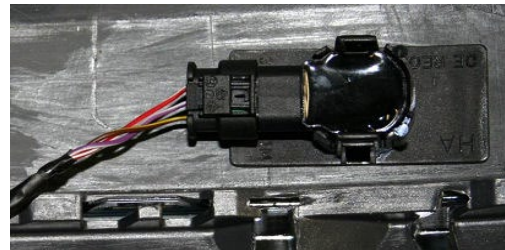
**Tip:** If a specific sensor is identified by the diagnostic tester, diagnose that specific sensor only.

9. Check the cables in the bumper for damage and sufficient length (Figures 12 - 13). Cables that are too short can cause damage to the harness.

- If the cable is damaged, repair the cable using VAS Repair Kit 1978.
- If the cable is too tight, correct the routing by moving the support clip so the cable is no longer under tension.

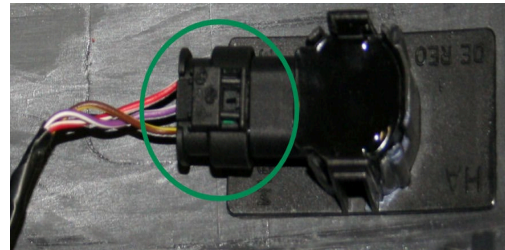


*Figure 12. A correctly installed cable with sufficient length.*

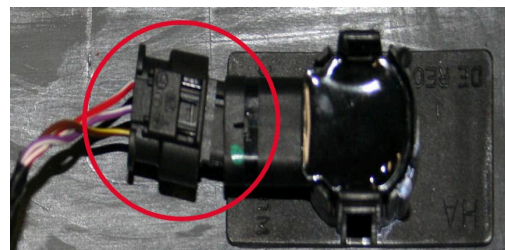


*Figure 13. A sensor cable with insufficient length.*

10. Check the connectors on the parking sensors and the socket box for correct installation (Figures 14 - 15). If the connectors are not installed properly, reinstall.



*Figure 14. A correctly installed parking aid sensor connector.*





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**Figure 15.** A parking aid sensor connector that is not seated correctly.

11. Re-evaluate the concern:

- If an issue was identified as environmental, or a vehicle issue from the above lists, educate the customer on the limitations of the system.
- If all environmental and vehicle conditions have been ruled out and the concern persists, proceed as follows:
  - Isolate the vehicle to a known good area.
  - Use MVB's to determine the sensor(s) affected.
  - Thoroughly check the affected sensor circuit.
  - Swap affected parking aid sensors or control modules as needed.

## Warranty

Accounting for an incorrectly fitted license plate holder or for cleaning the sensors is not permitted under warranty. For the potential remounting of parking assist sensor, replacing of the parking assist sensor bracket, or repairing system wiring:

<b>Claim Type:</b>	<ul style="list-style-type: none"> <li>• 110 up to 48 Months/50,000 Miles.</li> <li>• G10 for CPO Covered Vehicles – Verify Owner.</li> <li>• If the vehicle is outside any warranty, this Technical Service Bulletin is informational only.</li> </ul>		
<b>Service Number:</b>	<b>If the issue is caused by:</b>		
	Parking aid sensor		9175
	Parking aid module		9174
	Wire harness to the sensor		9759
<b>Damage Code:</b>	0040		
<b>Labor Operations:</b>	Remove and install the rear parking aid sensor	9175 XXXX	See SRT with associated operations
	Remove and install the front parking aid sensor	9175 XXXX	See SRT with associated operations



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	Remove and install the rear bumper	6369 19XX	See SRT with associated operations
	Remove and install the front bumper	6329 19XX	See SRT with associated operations
	Lane Change Assist recalibration (if necessary)	9635 XXXX	See SRT with associated operations
	Repair wiring harness	9175 4199	Max 30 TU
<b>Diagnostic Time:</b>	GFF	0150 0000	Time stated on diagnostic protocol (Max 30 TU)
	Road test prior to service procedure	No allowance	0 TU
	Road test after service procedure	No allowance	0 TU
<b>Claim Comment:</b>	As per TSB 2024323/9		

All warranty claims submitted for payment must be in accordance with the *Audi Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Audi Warranty.

## Additional Information

The following Technical Service Bulletin(s) will be necessary to complete this procedure:

- TSB 2039206: *00 How to watch TSB videos.*

All parts and service references provided in this TSB (2024323) are subject to change and/or removal. Always check with your Parts Department and/or ETKA for the latest information and parts bulletins. Please check the Repair Manual for fasteners, bolts, nuts, and screws that require replacement during the repair.

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